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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,687	04/18/2001	Paolo Palmas	105345	7848

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EXAMINER	
NECKEL, ALEXA DOROSHENK	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/837,687	PALMAS ET AL.	
	Examiner	Art Unit	
	Alexa D. Neckel	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Palmas (6,063,263).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claims 1 and 8, Palmas discloses a reactor vessel comprising:

a catalyst nozzle (16) for delivering catalyst to said reactor vessel (10);

a feed nozzle (17) for delivering feed to said reactor vessel (10), said feed nozzle joining said catalyst nozzle at a joint (see fig. 1 and 3) proximate to a work point (18 or 18') at which said catalyst contacts said feed to convert said feed to yield product vapor (col. 4, line 61- col. 5, line 25);

a transport conduit (15') having an inlet (39) for receiving said product vapor and entrained catalyst (col. 7, lines 33-34) and an outlet (31), said inlet (39) being disposed

vertically higher than said joint (near 18') between said feed nozzle (17) and said catalyst nozzle (16) (see fig. 3); and

a cyclone (22/64 of Niewiedzial) having an inlet (20/54 of Niewiedzial) directly communicating with said outlet arms (30 of Palmas; 16/40 of Niewiedzial) of said transport conduit (15 of Palmas;12/38 of Niewiedzial), communicating with a vapor outlet (24/66 of Niewiedzial) extending from the vessel and a dipleg (23/not numbered in figure 2 of Niewiedzial) extending downwardly.

It is noted that Palmas has incorporated Niewiedzial (5,565,020) by reference for the details of the arrangement of arms and separation devices (col. 6, lines 27-31 of Palmas).

With respect to claims 2 and 9, Palmas further discloses a stripping section (14) at the base of reactor vessel for stripping product vapors from said catalyst (col. 5, lines 46-48).

With respect to claims 3 and 10, Palmas further discloses wherein said stripping section (14) includes a series of trays/grids (25) and stripping medium is injected (23) into said stripping section (col. 5, lines 48-53).

With respect to claims 4 and 11, Palmas further discloses wherein said catalyst nozzle (16) includes a slot (114) for generating a curtain of catalyst (col. 8, lines 18-21 and lines 40-42).

With respect to claims 5 and 12, Palmas further discloses wherein said feed nozzle (17) includes a feed contactor (115) for injecting feed into said curtain of catalyst (col. 8, lines 14-21).

With respect to claims 6 and 13, Palmas further discloses wherein said catalyst nozzle (16) includes a funnel section (113) (see fig. 5) that dispenses through said slot (114) (col. 8, lines 18-21).

With respect to claim 7, Palmas further discloses wherein said inlet (39) faces away from said work point (18') (col. 7, lines 27-30).

With respect to claim 14, Palmas further discloses including a heat nozzle (27) for delivering hot catalyst to said stripping section (14) (col. 5, lines 58-60).

With respect to claim 15, Palmas discloses a process for cracking a heavy hydrocarbon feed to a light hydrocarbon product (col. 1, lines 31-37) comprising:

delivering catalyst to a reactor vessel (10) through a catalyst nozzle (16);

delivering heavy hydrocarbon feed to said reactor vessel (10) through a feed nozzle (17), said feed nozzle joining said catalyst nozzle at a joint (near 18' in fig. 3);

contacting said catalyst and said heavy hydrocarbon feed at a work point (18') proximate to said joint to convert said heavy hydrocarbon feed to light hydrocarbon product vapor (col. 4, line 61- col. 5, line 25);

withdrawing said product vapor and entrained catalyst (col. 7, lines 33-34) through an inlet (39) in a transport conduit (15'), said inlet (30) being disposed vertically higher than said joint (near 18') between said feed nozzle (17) and said catalyst nozzle (16) (see fig. 3); and

transporting said light hydrocarbon product vapor from said inlet (39) through an outlet (30 of Palmas; 16/44 of Niewiedzial) in said transport conduit directly to a cyclone (22/64 of Niewiedzial) and separating said entrained catalyst from said light

hydrocarbon product vapor in said cyclone (through vapor outlet 24/66 and catalyst outlet/dipleg 23/not numbered in figure 2 of Niewiedzial).

It is noted that Palmas has incorporated Niewiedzial (5,565,020) by reference for the details of the arrangement of arms and separation devices (col. 6, lines 27-31 of Palmas).

With respect to claims 16 and 17, Palmas further discloses wherein catalyst particles recovered by said cyclone are returned to the collection/stripping zone (14) at location (32) (col. 6, lines 37-42), but does not disclose an actual means to achieve this catalyst transport.

With respect to claim 18, Palmas further discloses expelling said lighter hydrocarbon product vapor from an outlet (31) of said cyclone (col. 6, lines 34-37).

With respect to claim 19, Palmas further discloses generating a curtain of catalyst before said catalyst is contacted with said heavy hydrocarbon feed (col. 8, lines 17-39).

Response to Arguments

3. Applicant's arguments filed April 10, 2006 have been fully considered but they are not persuasive.

Applicant argues that the outlet of transport conduit does not directly communicate with an inlet of the cyclone since figure 1 of Niewiedzial contemplates the gases from the transport conduit outlet arms enter the reactor vessel prior to entering the cyclone.

It is noted that Palmas incorporates all arrangements of arms and separation devices of Niewiedzial by reference. As such, figure 2 of Niewiedzial would also be included. In figure 2, Niewiedzial illustrates wherein gases from outlet arms (44) are contained within vessel (42) to enter directly into annular opening (54) leading to the cyclone (64).

It is also noted that the claims contain the transitional term "comprising" which is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. MPEP 2111.03. As such, gases from the transport vessel entering the cyclone via the reactor vessel does not preclude such a flowpath from being described as "direct".

Applicant argues that there is no suggestion to combine the references.

No motivation to combine the references is required as a rejection under 35 USC 102(e) has been applied. Palmas has expressly incorporated Niewiedzial (5,565,020) by reference for the details of the arrangement of arms and separation devices (col. 6, lines 27-31 of Palmas). As such the disclosure of Niewiedzial is a part of the Palmas reference and therefore no motivation is required to use the two reference in combination as applied above.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexa D. Neckel
Primary Examiner
Art Unit 1764

June 14, 2006

ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER